Using the ArcIMS Viewers

6

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The ArcIMS™ Viewers offer tools for viewing and querying your spatial and attribute data, performing spatial analysis tasks such as selecting and buffering features, and sharing ideas about data with others using such tools as EditNotes and MapNotes.

Using the ArcIMS Viewers, you can:

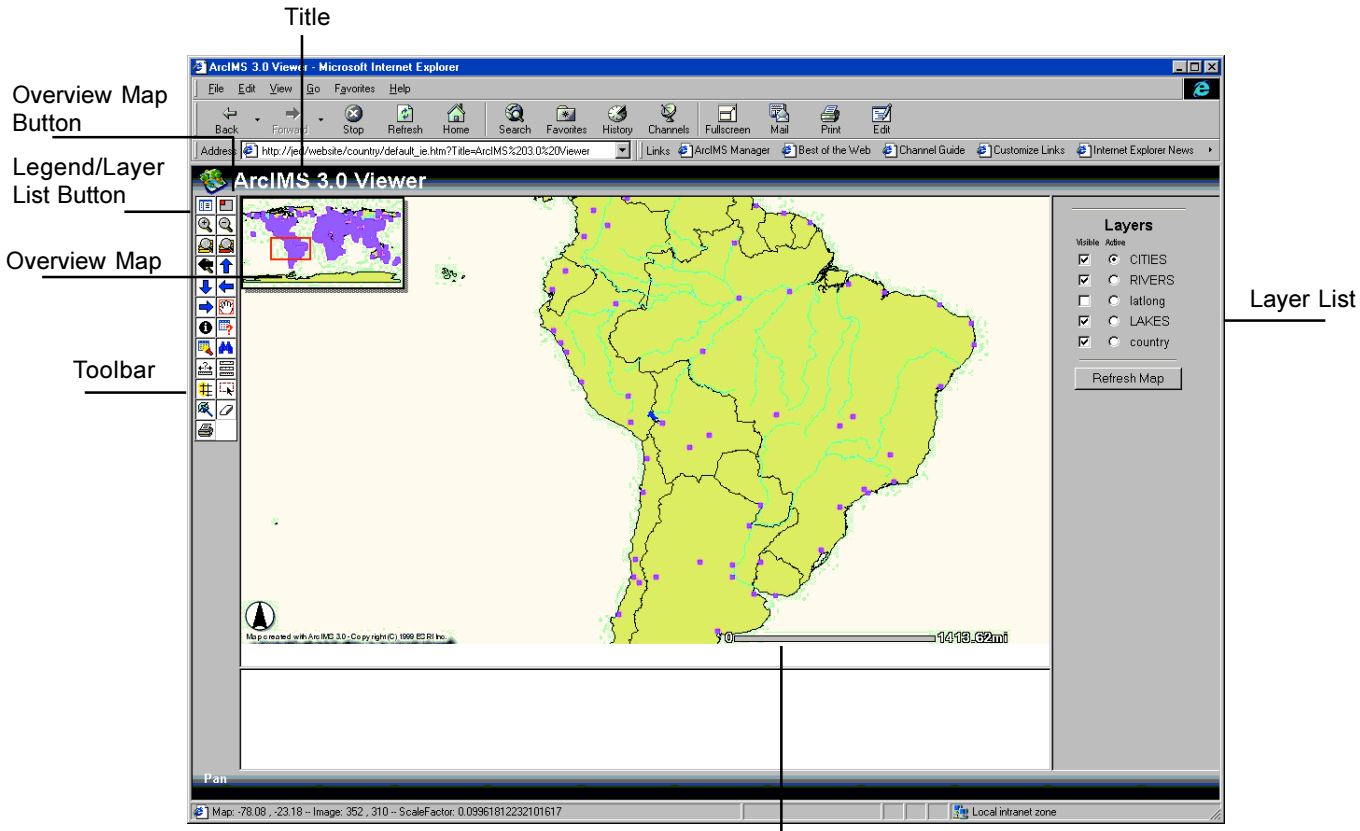
- Pan and zoom the map's extent.
- Query spatial and attribute data.
- Create a buffer around features.
- Measure distances on your map.
- Add MapNotes, such as text, graphics, or images, to your map and submit the MapNotes to an ArcIMS Spatial Server for review.
- Make EditNotes to a map's spatial and attribute data and submit the edits to an ArcIMS Spatial Server for review.
- Locate an address.

The ArcIMS Viewers also feature legend, overview maps, saving and retrieving projects, and map printing.

ArcIMS has three viewers: the HTML Viewer, the Java Custom Viewer, and the Java Standard Viewer. This chapter focuses on how each of the buttons on the viewers works; Chapter 4, 'Designing a Web site', details how to create the different viewers using ArcIMS Designer.

The following pages show an example of each of the three viewers.

The HTML Viewer:



The Overview Map button and Legend/Layer List button are unique to the HTML Viewer. You can toggle between the layer list (as seen in this example) or a legend which shows the symbology for each layer.

The Java Custom Viewer:

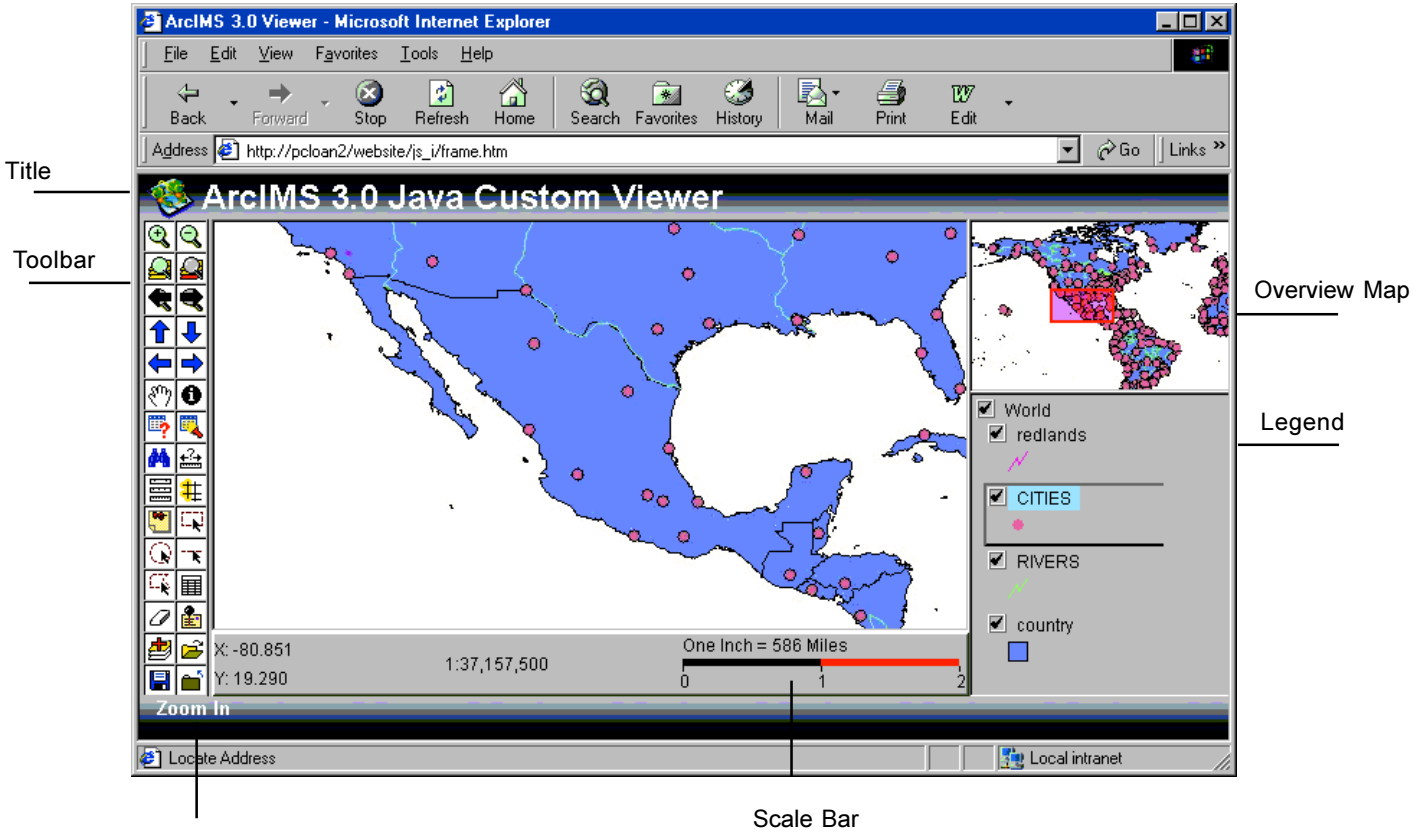
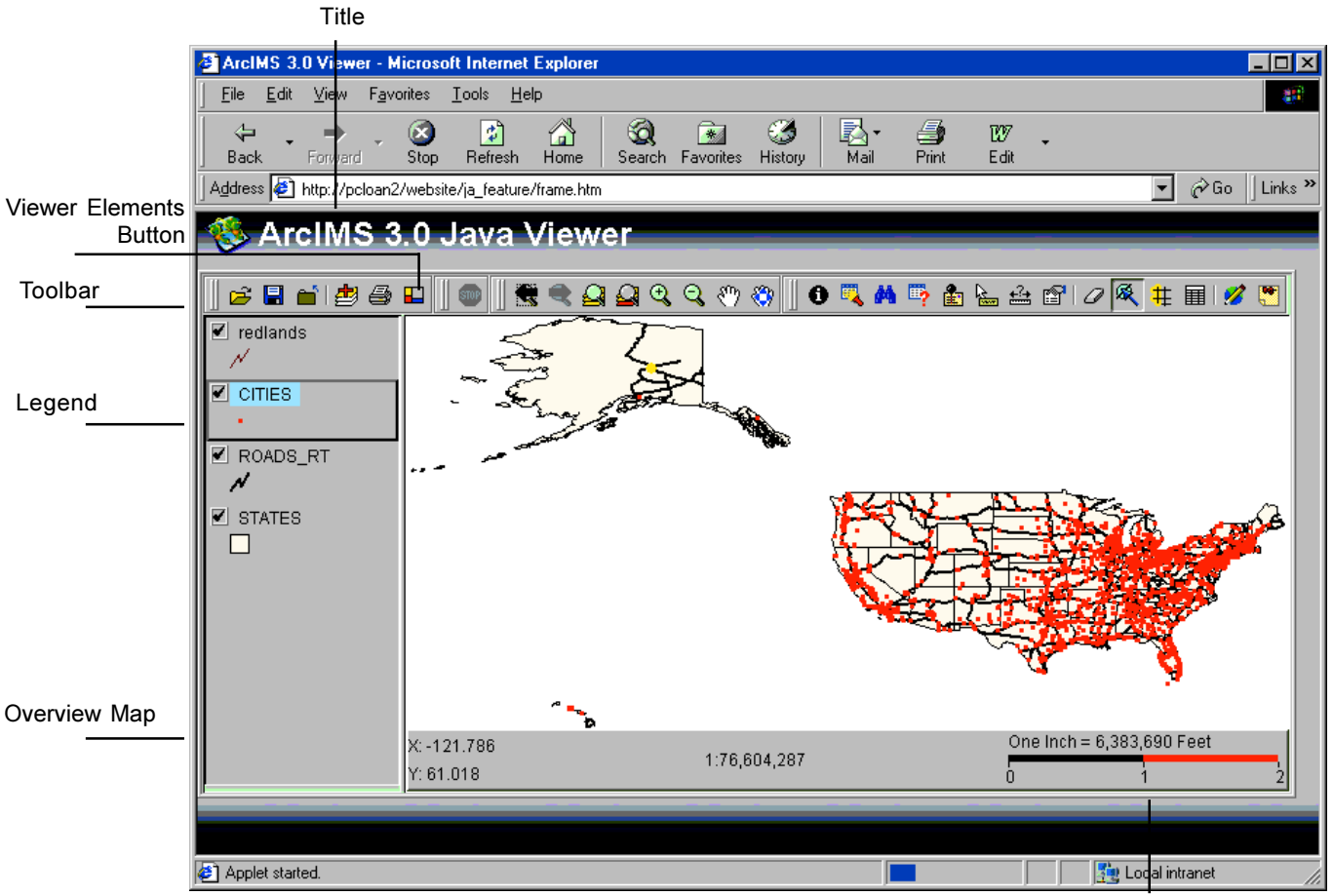


Image MapServices

The legend shows an Image MapService named World. The Image MapService has three sublayers: country, cities, and rivers. In this example, the cities sublayer is active; active layers appear raised in the legend.

The Java Standard Viewer:



The Viewer Elements button is unique to the Java Standard Viewer. It allows you to control the display of the Overview Map, Legend, and Scale Bar and the setting of the Scale Bar Properties.

Zooming and canceling the map

The zoom and pan tools allow you to change the map extent.

The initial extent of your map is the extent that the AXL was saved at. Often, the AXL is set to open at the full extent.

While features are being drawn to the map, the Cancel Data Retrieval button is enabled. This button allows you to stop the drawing of features.

Tip

The browser's Refresh button

Keep in mind that using the browser's Refresh button reloads the Web page, causing you to lose any changes to your map such as zooms to the extent or new symbols to a layer.

Availability

Cancel Data Retrieval button

The Cancel Data Retrieval button is only available on the Java Standard Viewer with Feature MapServices.

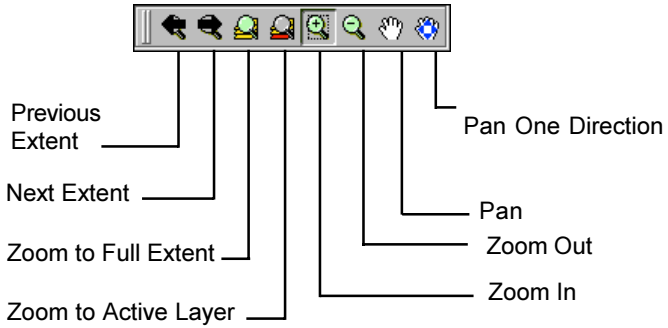
Next Extent button

The Next Extent button is not available on the HTML Viewer.

Zooming and panning the map

1. Click the Zoom to Full Extent button to see the full extent of the map.
2. Click a layer in the legend to make it active.
3. Click the Zoom to Active Layer button to see the extent of the active layer.
4. Click the Previous Extent and Next Extent buttons to toggle the map extent.
5. Click the Pan One Direction button and click a direction to pan the map.
6. Click the Zoom In button and then click or click and drag a rectangle on the map to zoom in to an area.

   The Zoom Out button works in the same manner but zooms out from an area.
7. Click the Pan button and then click and drag on the map to pan to a new area.



Each of the Pan One Direction buttons allows you to pan the map a specified direction.

Using the Cancel Data Retrieval button

Cancel Data Retrieval

1. Click the Cancel Data Retrieval button.

   The drawing of features to the map is now cancelled till you refresh the Web site.

Identifying and finding features

The Identify tool allows you to get attribute information about a feature by clicking on it.

The Find tool locates features based on their attribute values. Only searches on text strings can be performed—the Find tool cannot locate features based on numeric values.

A find is done on all fields defined as strings (text). The search can be done on single or multiple layers depending on what you select in the Layers to Search panel.

Tips

Finding with the HTML Viewer

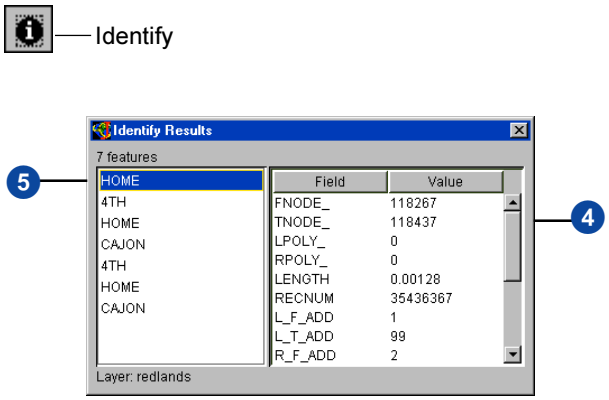
Results from the Identify and Find tools appear in the lower panel of the HTML Viewer.

Image MapService notation

In the Find dialog box shown on this page, the Find is performed on an Image MapService. The Image MapService notation shows the name of the Image MapService and the Image MapService's sublayer separated by a period. In this example, the Image MapService is named World, and the sublayer used to find features is named country.

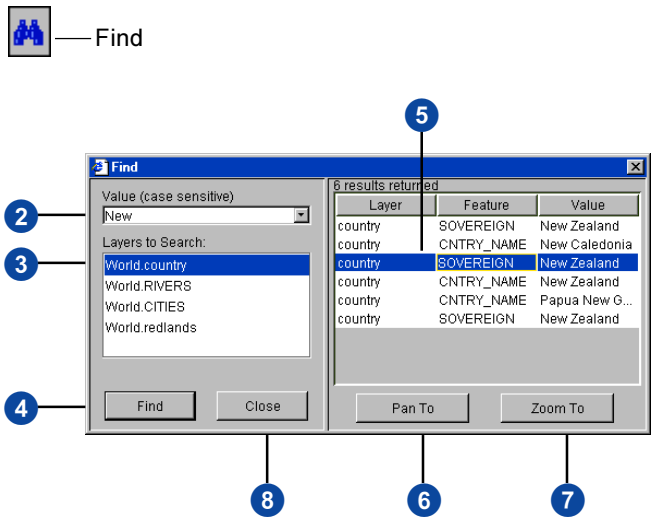
Identifying features

1. Click a layer in the legend to make it active.
2. Click the Identify button.
3. Click a feature on the map.
4. The results of the Identify are shown in the Identify Results dialog box.
5. If more than one feature is found, the features are listed in the Features panel. Click each feature to see its Identify results.



Finding features

1. Click the Find button.
2. Type any part of a word you want to find.
3. Click the layer or layers you would like to search.
4. Click Find to execute the search.
5. Click one or many results in the right panel to select them.
6. Click Pan To to pan the view to the selected feature(s).
7. Click Zoom To to zoom the view to the selected feature(s).
8. Click Close when you are done finding features.



Searching for features

The Search tool is enabled on your viewer if the MapService has been created with stored queries.

Once a stored query has been created, the Search tool allows the user to type only a value to search for, rather than a full query expression.

See Also

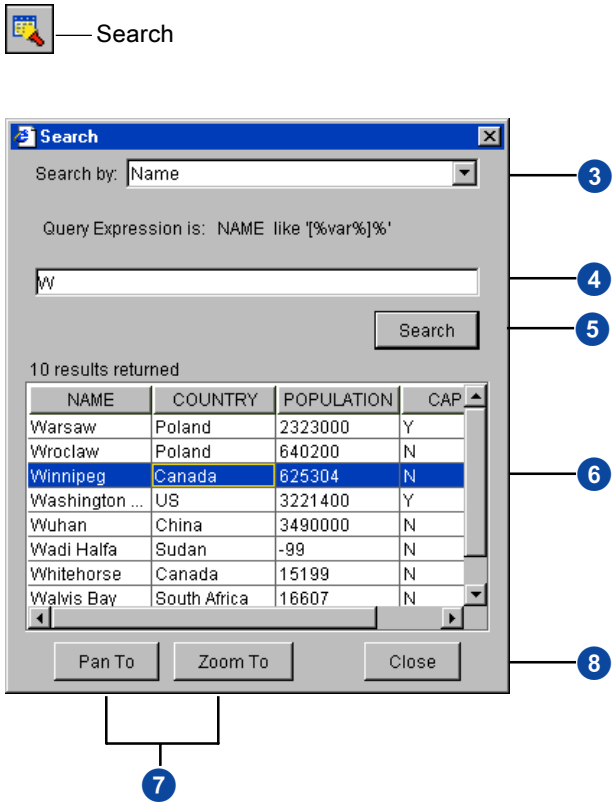
You can learn more about creating stored queries using the Author component of ArcIMS in Chapter 3, 'Authoring MapServices'.

Availability

1. Click a layer in the legend that has stored queries to make it active.
2. Click the Search button.
3. In the Search by list, click the stored query you would like to use.

   The Query Expression is updated as you click a stored query.
4. Type a search string.
5. Click Search.
6. Click a result in the lower panel.

   The feature is highlighted on the map.
7. Click Pan To or Zoom To to locate the result on the map.
8. Click Close to close the dialog box.



Querying data

The Query Builder queries features based on their attribute values. Numeric or text are acceptable search strings. You must use single quotes around values that are text strings.

You can calculate statistics on the results of your query by clicking the Statistics button. The Query Builder generates a simple set of statistics. On the Select a field to get statistics dialog, you can click the Use Query Results? check box to only calculate statistics on the selected records.

The results of a query can be saved to a text file using the Save Results button. In the Save dialog box, type the name of the file with a .txt extension.

Tip

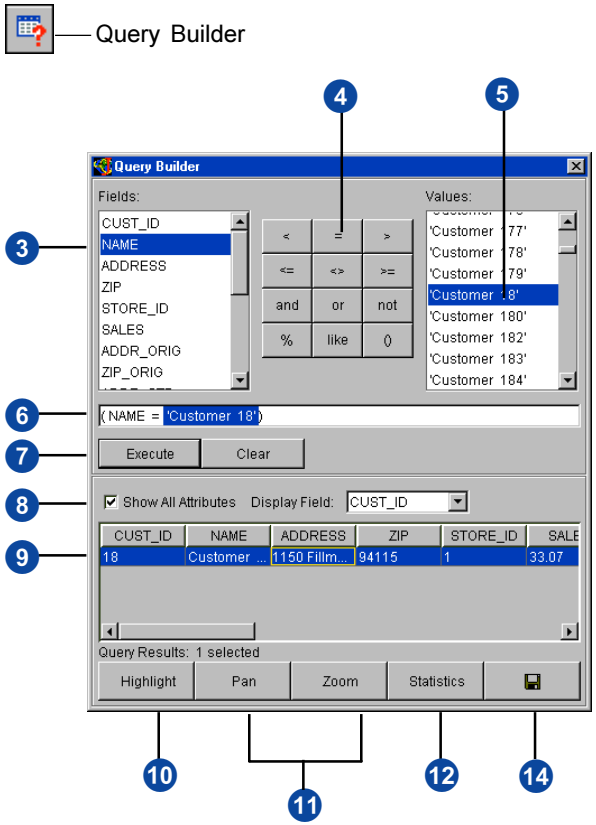
Working with query results

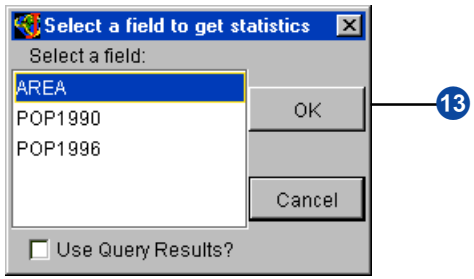
The results of a query can be saved to a comma-delimited text file. The text file can then be used in another program, such as Microsoft Excel, to create a spreadsheet of your query results. Not available with the HTML Viewer.

1. Click a layer in the legend to make it active.
2. Click the Query Builder button.
3. Click a field to query.
4. Click an operator to be used in the expression.
5. Click a sample value or type a value for the expression.
6. Verify that the query expression is correct.
7. Click Execute.
8. Click a field in the Display Field dropdown to only show one field in the lower panel.

   The results are in the lower panel.
9. Click one or many results from the lower panel.
10. Click Highlight to make the selected feature(s) highlighted on the map.
11. Click Pan or Zoom to pan or zoom to the selected feature(s).
12. Click Statistics.
13. Click a field to be used for statistics and click OK.

    The statistics are shown in a separate dialog box. Click OK to close this dialog box.
14. Click the Save button.
15. Type a name for the text file and click Save.





Displaying MapTips

MapTips are small popups that display data for a field you specify.

You can only display one MapTip per layer.

Tip

MapTips set for Java Custom Viewer

MapTips can only be set for the Java Custom Viewer. See Chapter 4, 'Designing a Web site', for more details on how to use ArcIMS Designer to set MapTips.

Availability

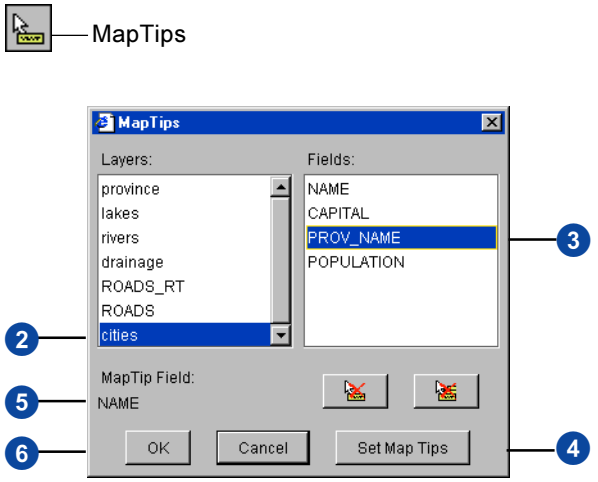
MapTips button

The MapTips button is not available on the HTML Viewer or with any Image MapService.

Adding MapTips

1. Click the MapTips button.
2. Click a layer for MapTips.
3. Click the field you would like to display in the MapTips.
4. Click Set MapTips.
5. The MapTip Field updates with the field you chose.

   Repeat the process for each layer you would like to display with MapTips.
6. Click OK to close the dialog box and begin using MapTips.



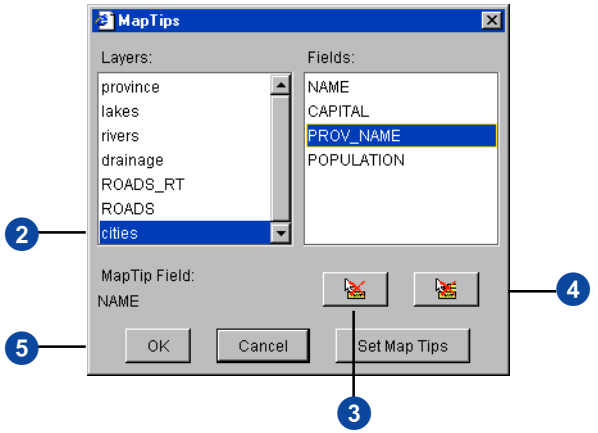
Removing MapTips

Removing MapTips from the selected layer

1. Click the MapTips button.
2. Click a layer to select it.
3. Click the Clear Selected MapTips Field button.

Removing all MapTips

4. Click the Clear All MapTips Fields button.
5. Click OK to close the dialog box.



Selecting and buffering features

You can use the Select Features button to select features and then view their attribute values using the Attributes button.

The Clear All Selection button clears the selected features in all layers.

You can clear the selection of a specific layer by right-clicking the layer in the legend, pointing to Clear, and clicking Clear Selection.

After you have one or many features selected, the Buffer tool is enabled.

Once a buffer has been applied, you can use the buffer to select features from another layer.

Tips

Creating a buffer may take awhile

Depending on the number of features selected and the buffer distance, a buffer or selection from a buffer may take awhile. If you include the Select Features and Buffer tools on your Web site, be sure to provide your end user with appropriate instructions.

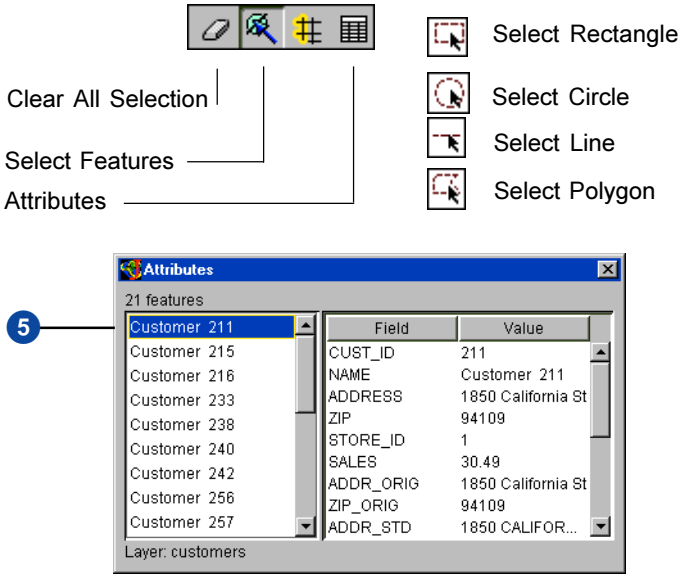
Smallest buffer distance

The smallest buffer distance that can be specified is .007 (of any unit); distances less than .007 are not supported.

Selecting features

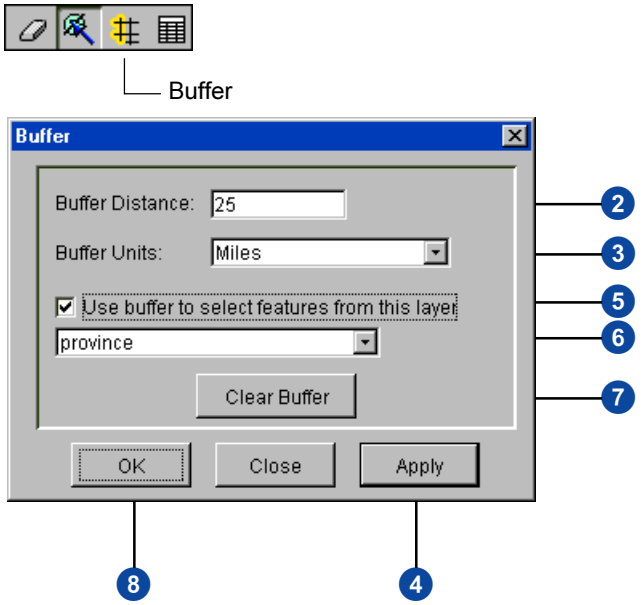
1. Click a layer in the legend to make it active.
2. Click the Select Features button and click either Rectangle, Circle, Polygon, or Line.
3. Click and drag on the map to select features.
4. Click the Attributes button to see the values for the selected feature(s).

   If multiple features were selected, they are listed in the left panel.
5. Click each feature to see its attributes.



Buffering features

1. Click the Buffer button.
2. Type a distance for buffering the feature.
3. Click miles, feet, kilometers, or meters for the Buffer Units.
4. Click Apply to see the buffer.
5. Check the box to select features from another layer.
6. Click a layer that you would like to select features from.
7. Click Clear Buffer to remove the buffer but keep the selection.
8. Click OK to see the selection and close the dialog box.



Working with measures and scale

Use the Measure button to measure distances on your map. ▸

Tips

HTML Viewer: Set Units

Click the Set Units button on the HTML Viewer to change the measure units and the units of the scale bar.

Java Standard Viewer: Clear Measure Totals

In addition to double-clicking on the map, you can also clear the measure totals by clicking the Measure button and clicking Clear Measure Totals.

Working with measures


Measure

Measuring a distance

1. Click the Measure button.

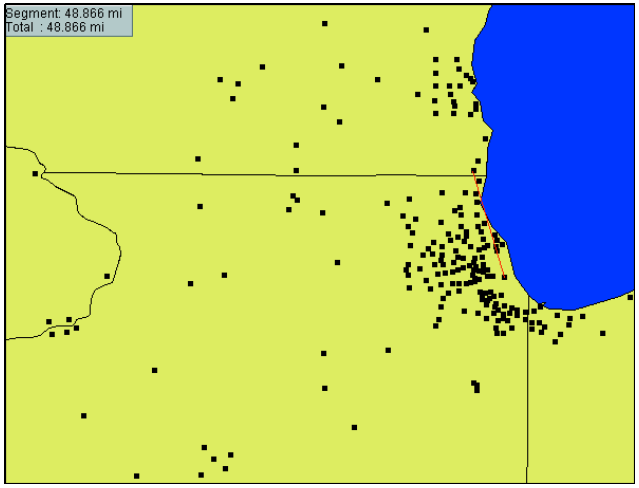
   On the Java Viewers:

   Click and drag a line defining the distance you would like to measure.

   On the HTML Viewer:

   Click to define the first point and then click again to define the second point. Repeat for each segment.

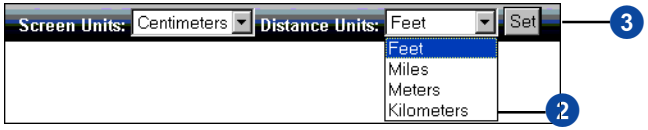
   The segment and total measures appear in the upper left corner of the map.



Changing the measure units


Set Units

1. Click the Set Units button.
2. Click a new unit of measure for the Distance Units.
3. Click Set.



Clearing the measure totals

On the Java Viewers:

Double-click on the map to clear the measure totals and end measuring.

On the HTML Viewer:

Click another button to end measuring.

Working with measures and scale continued

Each time you zoom in, zoom out, or resize the map, the scale changes. These changes are reported on the scale bar.

Scale units display in the scale bar itself and in the right side of the verbal scale equation (e.g., 1 centimeter = 200 kilometers). You can set the scale units as miles, feet, meters, or kilometers.

Screen units correspond to the actual display on your computer monitor and are presented on the left side of the verbal scale equation (e.g., 1 inch = 40 miles). You can set the screen units as either inches or centimeters.

Tip

Data source units

The data source units (or map units) are the units in which geographic data is stored. The data source units can be set to decimal degrees, feet, or meters.

The data source units for a viewer are set using ArcIMS Designer.

See Also

You can learn more about setting the data source units for a viewer with ArcIMS Designer in Chapter 4, 'Designing a Web site'.

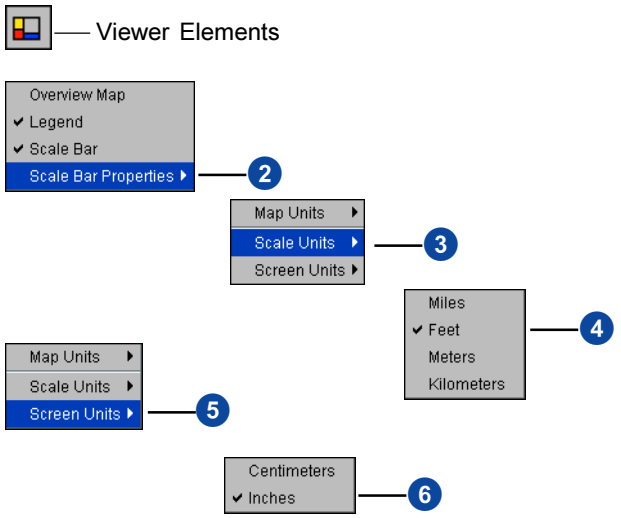
Working with scale

Setting the scale bar units on the Java Standard Viewer

1. Click the Viewer Elements button.
2. Point to Scale Bar Properties.
3. Point to Scale Units.
4. Click either Miles, Feet, Meters, or Kilometers.

   Repeat steps 1 and 2.
5. Point to Screen Units.
6. Click either Centimeters or Inches.

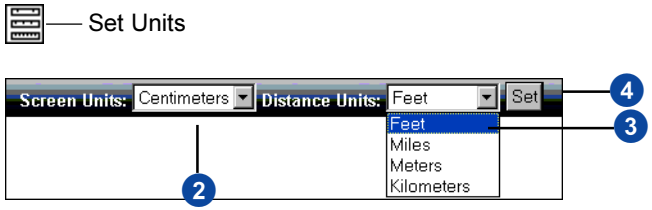
   The changes are reflected in the scale bar.



Setting the scale bar units on the Java Custom and HTML Viewer

1. Click the Set Units button.
2. Click a unit from the Screen Units dropdown list.
3. Click a unit from the Distance Units dropdown list.
4. Click Set.

   The changes are reflected in the scale bar.



Adding MapNotes

The MapNotes tool introduces the idea of collaborative geographic information system (GIS) technology—sharing not only data but also ideas about your data with others. Using MapNotes, you can add notes such as text or graphic elements to your map.

Begin by creating a MapNotes layer. Once a MapNotes layer is created, you can add MapNotes. ▸

Availability

MapNotes button

MapNotes are not available on the HTML Viewer.

Tips

Adding freehand, lines, and polygons

After you are finished adding freehand, you must double-click to commit the freehand; the freehand will turn red once it has been committed. The same is true when adding polygons or lines; once done drawing a polygon or line, double-click to signal the end of drawing.

Using another tool while MapNotes toolbar is open

The MapNotes toolbar will temporarily close if you click a button on the main toolbar. To reopen, click the MapNotes button.

Creating MapNotes Layers

1. Click the MapNotes button.
2. Click the New MapNotes Layer button.

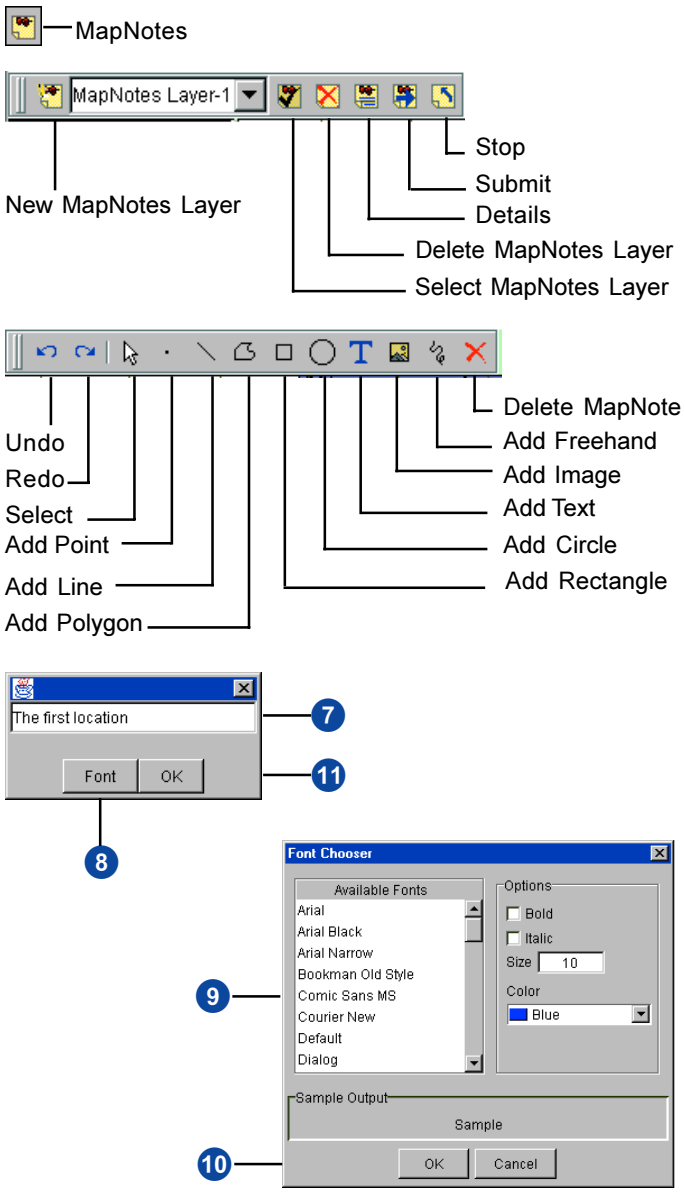
   The new layer is given a name of MapNotes Layer-#.
3. Double-click the layer name and type a new name for the layer in the input box.

   Repeat steps 2 and 3 to add more MapNotes layers.

Adding MapNotes

4. Click the Add Circle button.
5. Click and drag a circle or circles on your map.

   Points, lines, polygons, rectangles, and freehand can be added in the same way.
6. Click the Add Text button.
7. In the Text dialog box, type text.
8. Click Font.
9. Change the font, size, and color with the Font Chooser dialog box.
10. Click OK.
11. Click OK.
12. Click on the map to add the text. ▸



Adding MapNotes continued

You can include details with the MapNotes layers by clicking the Details button and typing a description.

Once you are done adding MapNotes, click the Submit button to submit them to a folder on the ArcIMS Spatial Server that is serving the Web site. A listing of submitted MapNotes can be viewed using ArcIMS Administrator.

When finished, click the Stop button to close the MapNotes toolbar.

Tip

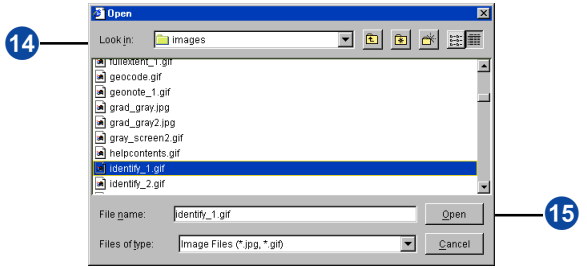
How details are used

The details you type in the MapNotes Layer Details dialog box are saved with each MapNotes layer. Including details with your MapNotes can be helpful for those who will review the MapNotes folder in ArcIMS Administrator.

See Also

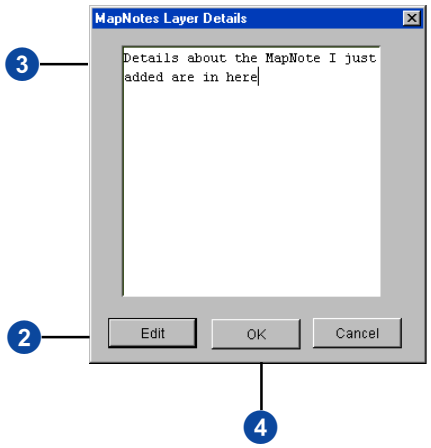
See Chapter 5, 'Administering your site', to learn how to use ArcIMS Administrator to see a listing of submitted MapNotes.

13. Click the Add Image button.
14. Navigate to the image you want to add.
15. Click Open.
16. Click on the map to add the image.



Including details

1. Click the Details button.
2. Click Edit.
3. Type text to describe the MapNotes layer.
4. Click OK to commit the text and close the dialog box.



Submitting and stopping

1. Click the Submit button to submit the MapNotes.
2. Click the Stop button to close the MapNotes toolbar.

Using EditNotes

The EditNotes tool is used to make simple edits to spatial and attribute data. These edits are submitted to a folder on an ArcIMS Spatial Server. Using ArcIMS Administrator, the submitted edits can be converted to a shapefile or XML format.

The spatial editing capabilities include adding, moving (of features and their vertices), and deleting of features.

The Attributes tool allows you to change the attributes of an existing feature or populate the fields of a newly added feature.

Adding and moving of features rendered with graduated or unique values are not allowed.

While editing, use the Undo and Redo buttons to change edits. ►

Tip

Line and polygon features: generalized data

If you are editing line or polygon features, the data appears generalized in the viewers.

Availability

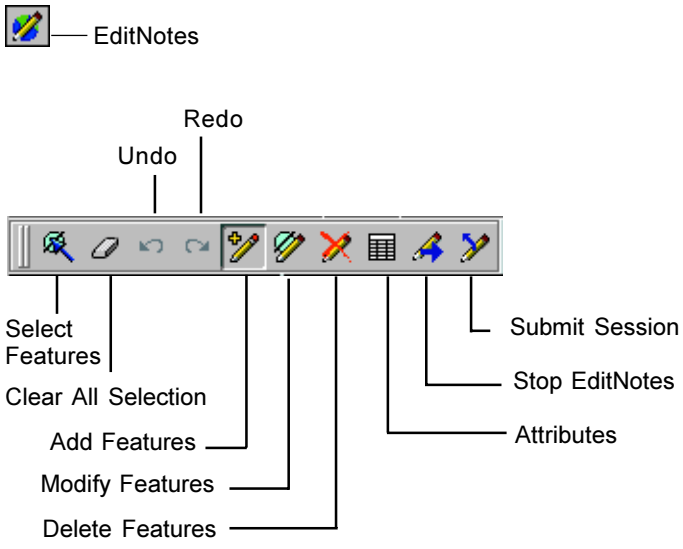
EditNotes button

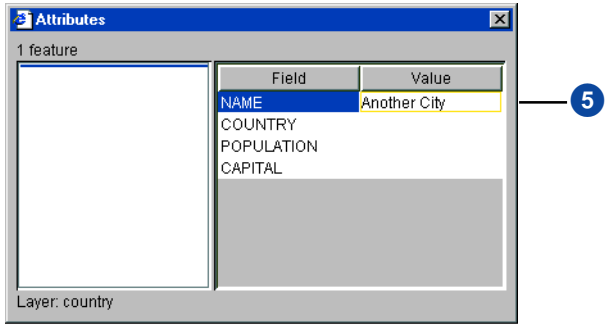
EditNotes is not available with Image MapServices.

Adding EditNotes

1. Click a layer in the legend to make it active.
2. Click the EditNotes button.
3. Click the Select Features button to click and drag a shape for selecting features.

   Once a feature or features are selected, you can:
4. Click the Add Features button to add features.
5. Click the Attributes button to view and change an existing feature's attributes or add attributes to a new feature.
6. When typing new values in the Attributes dialog box, be sure to press Enter after each value.
7. Click the Modify Features button to move features. A feature's vertices can be moved by clicking and dragging on a vertex.
8. Delete features with the Delete Features button.





Using EditNotes continued

EditNotes are submitted with a time and date stamp and a brief description that you provide.

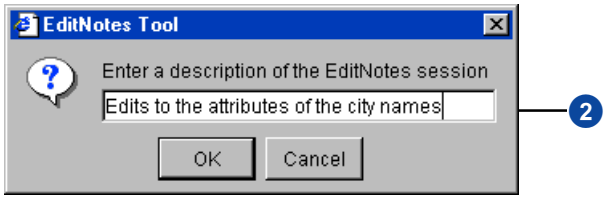
Once you stop your EditNotes session, you will no longer see the edits on your map.

See Also

See Chapter 5, 'Administering your site', to learn about reviewing and converting submitted EditNotes.

Submitting and stopping

1. Click the Submit Session button.
2. Type in a description of the EditNotes just created and click OK.
3. Click the Stop EditNotes button to close the EditNotes toolbar.



Locating an address

The Locate Address button performs an address match: the locating of a point based on a text string of address values.

The Locate Address button is enabled on viewers that have MapServices set with geocoding properties.

As more than one layer in a service could have geocoding properties set, use the Select Layer dropdown box to select the layer you would like to use to locate an address.

After locating an address, use the Clear Selection button to clear the point and label on the map.

Tip

HTML Viewer: Locating an address

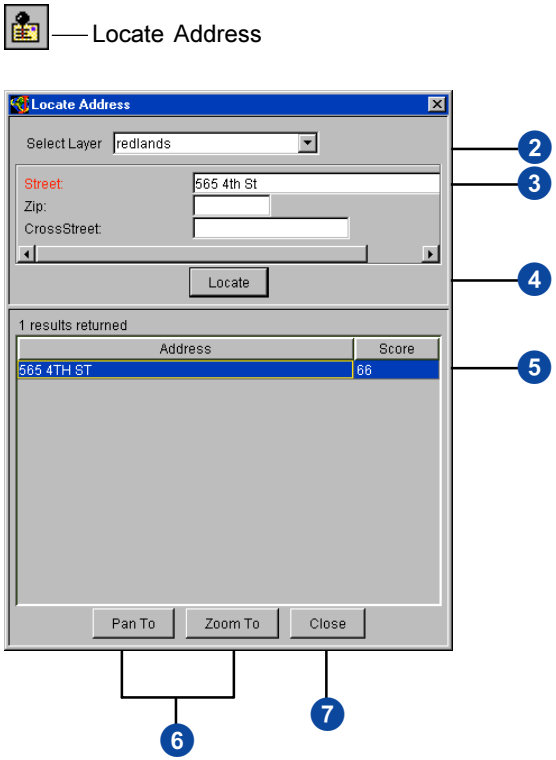
The HTML Viewer shows the results in a panel below the map; you can click the Locate Another button to find another address location.

See Also

To learn more about setting a MapService's geocoding properties in ArcIMS Author, see Chapter 3, 'Authoring MapServices'.

1. Click the Locate Address button.
2. Click the layer that you would like to locate an address from.
3. Type the values of the address. The more information entered, the more accurate your results will be.

   Fields that are required to perform the address match appear in red.
4. Click Locate.
5. The results of the address match appear in the lower panel. Also, a point and a label are placed on the map.
6. Click Pan To or Zoom To to locate the result on the map.
7. Click Close to close the dialog box.



Opening layer properties

How a layer is displayed can be changed using the Layer Properties dialog box. You can change the color, size, or style of the single symbol.

The General tab allows you to change the name of the layer as it appears in the legend and provides information about the size and source of the datafile.

The General tab can also be used to set a scale factor for a layer. You can control the scale at which a layer displays by setting its scale threshold. For example, you could set a U.S. state boundaries layer to turn off after you zoom past a certain point and set the county boundaries to turn on at the same scale. Setting up scale factors can help keep the map display clean and focused on relevant data.

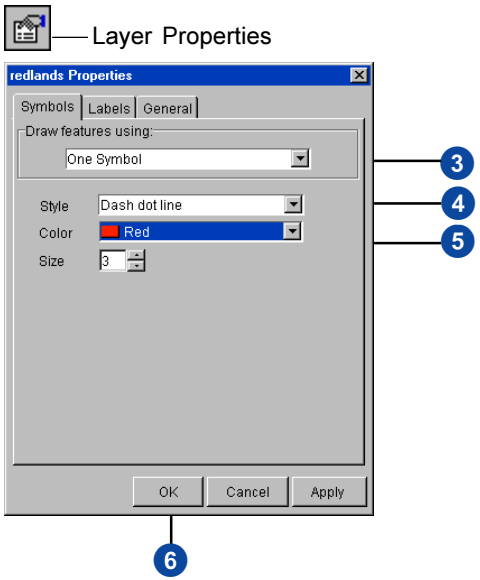
Availability

Layer Properties button

The Layer Properties button is not available on the HTML Viewer or with any Image MapService.

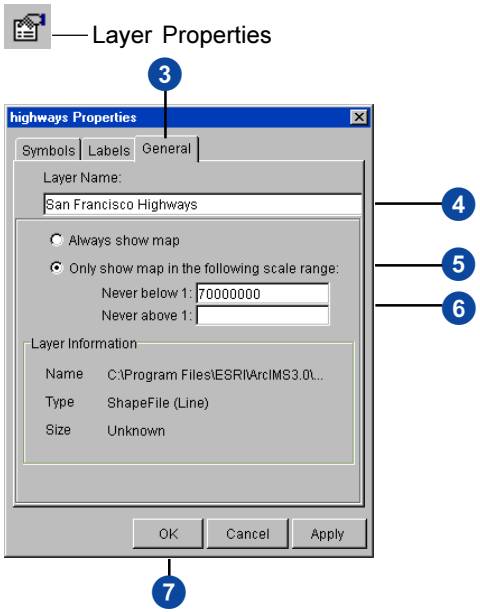
Drawing features with one symbol

1. Click a layer in the legend to make it active.
2. Click the Layer Properties button.
3. Click the Style box to apply a new style to the layer.
4. Click the Color box to choose a color.
5. Click the Size box to apply a new size to the layer.
6. Click OK to close the dialog box and see the changes.



Using the General tab

1. Click a layer in the legend to make it active.
2. Click the Layer Properties button.
3. Click the General tab.
4. Type a new name in the Layer Name box.
5. Click the Only show map in the following scale range button.
6. Type a scale to never show the layer above or below.
7. Click OK to close the dialog box and see the changes.



Changing layer properties

You can create a graduated symbols or unique symbols map using the Layer Properties dialog box.

A graduated symbols map uses equal interval classification to create graduated color and/or size maps. In the equal interval classification method, the range of attribute values is divided into equal-sized subranges; the features are then classified based on those subranges.

The Unique Values classification displays features by applying a different color to each unique value for a specified field. ▸

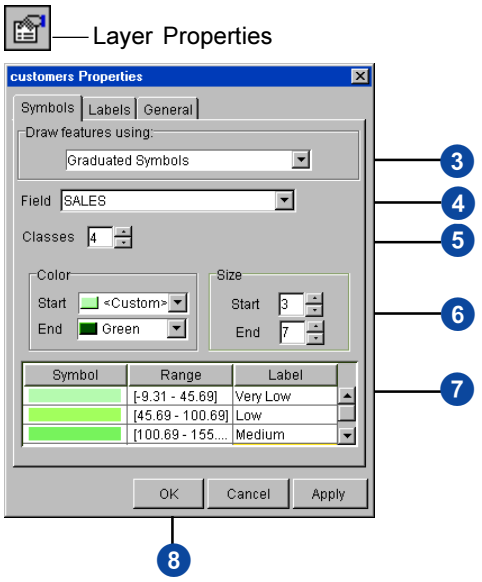
Tip

Changing the value's label

For both graduated symbols and unique symbols maps, you can change the label of each value by typing a new value in the Label column. Be sure to press Enter after adding each new value.

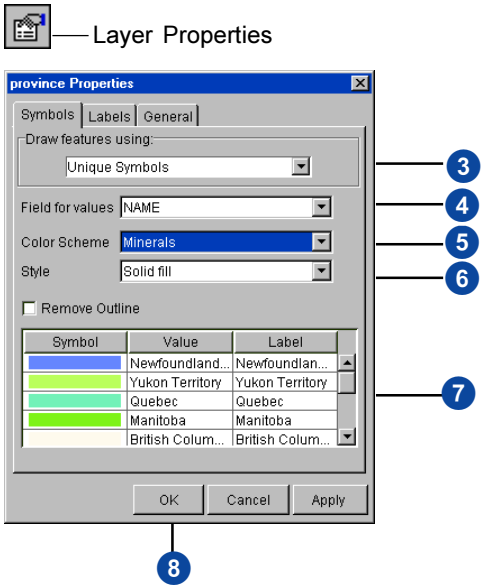
Making a graduated symbols map

1. Click a layer in the legend to make it active.
2. Click the Layer Properties button.
3. Click Graduated Symbols.
4. Click a Field.
5. Click a number of classes.
6. Click a Start and End Size and Color.
7. Double-click a value in the Label column to select it. Enter a new value.
8. Click OK to close the dialog box and see the changes.



Making a unique symbols map

1. Click a layer in the legend to make it active.
2. Click the Layer Properties button.
3. Click Unique Symbols.
4. Click a Field.
5. Click a Color Scheme.
6. Click a Style.
7. Double-click a value in the Label column to select it. Enter a new value.
8. Click OK to close the dialog box and see the changes.



Changing layer properties continued

Add labels to features with the Labels tab of the Layer Properties dialog box.

The example on this page shows the label placement functionality for point features. Label placement for lines offers options for above, on, or below a line.

Tip

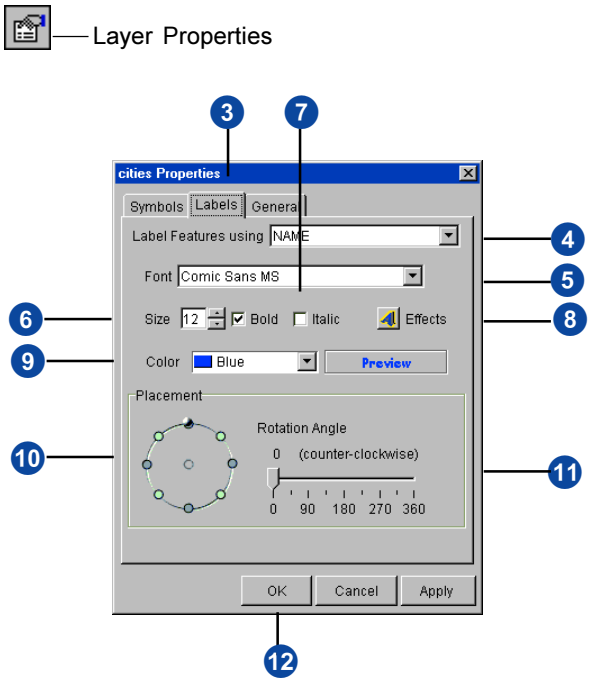
Using highest text quality

The check box for using highest text quality is also referred to as antialiasing.

When lines are drawn at an angle, they may appear jagged due to the number of pixels available to display them. Antialiasing allows the line to be smooth by coloring adjacent pixels in such a way as to give the edge of the line a more gradual fade to the background color. Most of the symbols available with ArcIMS support this option, which requires more processing time.

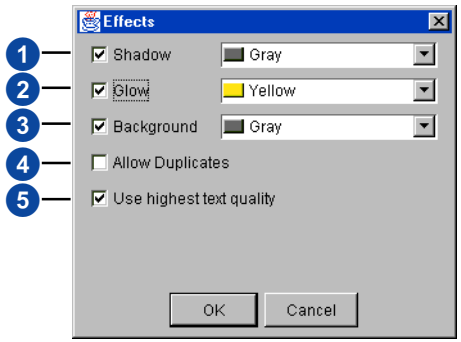
Adding labels

1. Click a layer in the legend to make it active.
2. Click the Layer Properties button.
3. Click the Labels tab.
4. Click a Field for labels.
5. Click a Font.
6. Click a Size.
7. Check the Bold or Italic boxes to change the text.
8. Click the Effects button for more options on changing the appearance of labels.
9. Click a color.
10. Click a label placement.
11. Click an angle of rotation for the labels.
12. Click OK to close the dialog box and see the changes.



Using effects

1. Check Shadow to add a three-dimensional effect around the label.
2. Check Glow to add a color around the label.
3. Check Background to add a box under the label.
4. Check Allow Duplicates to allow all labels to display.
5. Check Use highest text quality to apply antialiasing.



Adding data

Data from local sources, a Spatial Database Engine™ (SDE®) server, or an ArcIMS Web site can be added.

The spatial data you can add includes images, shapefiles, coverages, and SDE layers. ▸

Availability

Add Layers button

The Add Layers button is not available on the HTML Viewer or with any Image MapService.

Tips

Connecting to SDE

To connect to an SDE instance, the instance must be listed in your Services file and you need permissions to connect to the database.

Disconnecting from SDE

Disconnect from an SDE database by right-clicking on the SDE server in the left panel of the Catalog and clicking Disconnect.

Organizing favorites

Favorites is a list of shortcuts to commonly used folders. Right-click on a folder in the Catalog and click Add to Favorites. More information about organizing favorites can be found in Chapter 3, 'Authoring MapServices'.

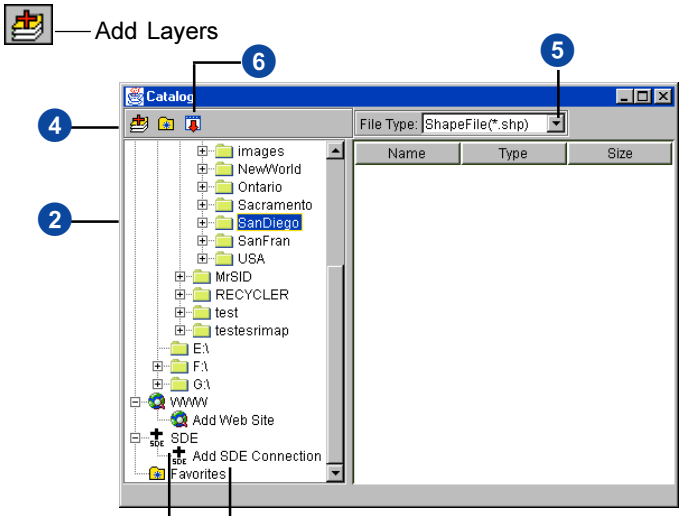
See Also

Refer to Chapter 3, 'Authoring MapServices', for a list of supported image formats.

Adding local data

1. Click the Add Layers button to open the Catalog.
2. Navigate to the folder that contains shapefiles.
3. Click a file to add.
4. Click the Add Layers button.
5. Click the File Type dropdown and choose Image Files.

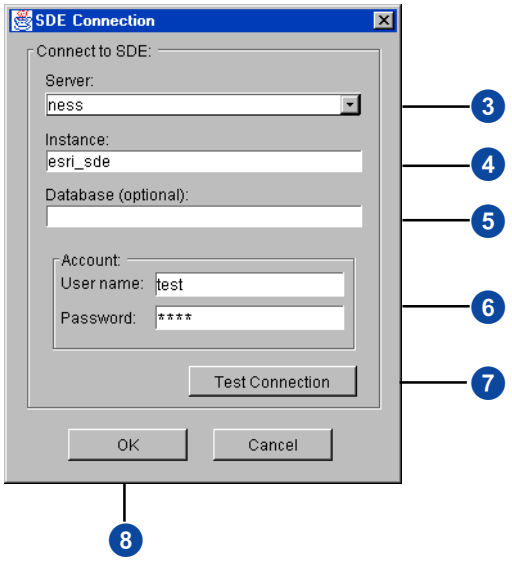
   Repeat steps 3 and 4 to add images.
6. Click the Close button to close the Catalog.



Adding SDE data

1. From the Catalog dialog box, double-click SDE.
2. From the Catalog dialog box, double-click Add SDE Connection.
3. Type the name of the server.
4. Type the SDE instance.
5. If necessary, type a database name.
6. Type your user name and password.
7. Click Test Connection.
8. If the connection succeeded, click OK to connect.

   The SDE database is now listed in the Catalog.



Adding data continued

From the viewers, you can view data on a Web site served with ArcIMS, ArcView® Internet Map Server (IMS), or MapObjects® Internet Map Server (IMS).

Entering a service name for ArcIMS or MapObjects IMS is optional. If you do not specify a service name, you will be connected to all the sites running on that server.

See Also

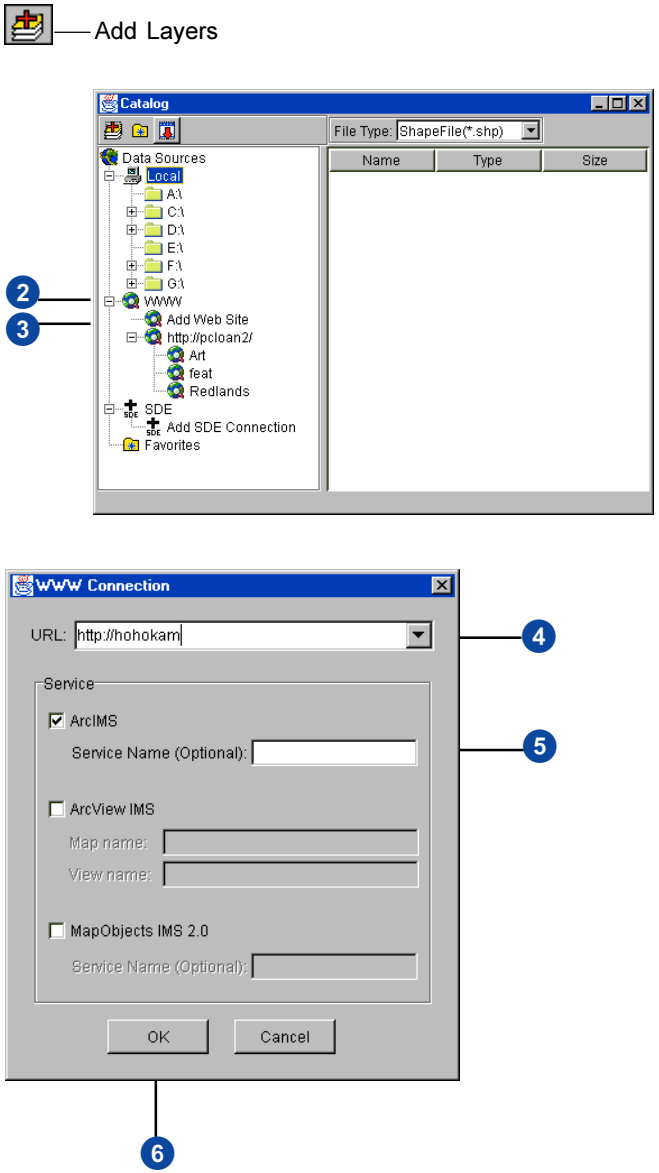
See the Appendix for more information on viewing ArcView IMS and MapObjects IMS Web sites.

Adding data from a Web site

1. Click the Add Layers button to open the Catalog.
2. Double-click the WWW icon.
3. Double-click Add Web Site to open the WWW Connection dialog box.
4. Type the name of the server.
5. Click ArcIMS, ArcView IMS, or MapObjects IMS.

   If you are connecting to an ArcView IMS site, type a Map Name and View Name.
6. Click OK to connect.

   The Web site's MapServices appear in your catalog.



Printing, copying, saving, closing, and opening

The Java Viewers allow you to save, close, or open a project.

A project is saved to a file with an AXL (ArcXML) extension.

When a project is closed, the contents of the map, legend, and overview map are cleared; the Viewer remains open.

Availability

Copy Map Image to File, Save, Close, and Open Project buttons

The Copy Map Image to File, Save Project, Close Project, and Open Project buttons are not available on the HTML Viewer.

Printing a map


Print

1. Click the Print button.

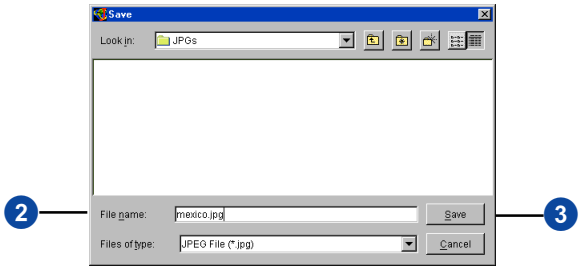
   On the HTML Viewer, type a title and click Create Print Page.

   On the Java Viewers, click OK.

Copying a map to a file


Copy Map Image to File

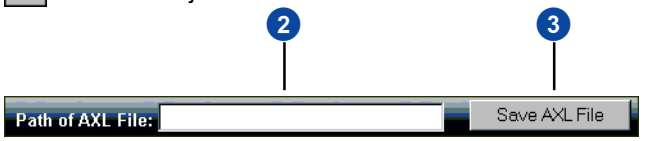
1. Click the Copy Map Image to File button.
2. Navigate to a folder and type a name for the image.
3. Click Save.



Saving a project


Save Project

1. Click the Save Project button.
2. Type a path and filename for the AXL you want to save.
3. Click Save AXL File.



Closing a project


Close Project

1. Click the Close Project button.

Opening a project


Open Project

1. Click the Open Project button.
2. Type the path to the file you want to open or click Browse.
3. Click Open AXL File.